GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: March 7, 2005, 06:55:26 ; Search time 165.813 Seconds
(without alignments)
919.008 Million cell updates/sec

Title: US-09-939-537-29_COPY_1_394
Perfect score: 2029
Sequence: 1 MNRGVPFRHLLLVLQLALLP.....SGQVLLESNIKVLPTWSTPV 394

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_16Dec04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB	ID	Description
1	2029	100.0	398	2	AAR89450	Aar89450 CD4 D1-D4
2	2029	100.0	458	3	AAB07769	Aab07769 DNA encod
3	2029	100.0	462	2	AAR27277	Aar27277 CD4:eta p
4	2029	100.0	462	2	AAR78677	Aar78677 T-cell re
5	2029	100.0	462	2	AAR89457	Aar89457 CD4:gamma
6	2029	100.0	462	2	AAW02214	Aaw02214 CD4:Fc re
7	2029	100.0	462	2	AAW83142	Aaw83142 Chimeric
8	2029	100.0	532	2	AAR27278	Aar27278 CD4:gamma
9	2029	100.0	532	2	AAR78678	Aar78678 T-cell re
10	2029	100.0	532	2	AAR89458	Aar89458 CD4:eta f
11	2029	100.0	532	2	AAW02215	Aaw02215 CD4:T-cel
12	2029	100.0	532	2	AAW83141	Aaw83141 Chimeric
13	2029	100.0	575	2	AAR27276	Aar27276 CD4:zeta
14	2029	100.0	575	2	AAR78676	Aar78676 T-cell re
15	2029	100.0	575	2	AAR89456	Aar89456 CD4:zeta
16	2029	100.0	575	2	AAW02213	Aaw02213 CD4:T-cel
17	2029	100.0	575	2	AAW83140	Aaw83140 Chimeric
18	2029	100.0	630	7	ADH54472	Adh54472 Human CD4
19	2026	99.9	398	2	AAR78673	Aar78673 CD4 domai
20	2023	99.7	416	3	AAB19509	Aab19509 CD4-IgM f
21	2023	99.7	436	3	AAY51080	Aay51080 Human fus
22	2023	99.7	474	3	AAY59170	Aay59170 CD4-Ig fu
23	2023	99.7	481	3	AAB19510	Aab19510 CD4-IgM f
24	2023	99.7	481	3	AAY59171	Aay59171 CD4-Ig fu
25	2023	99.7	616	3	AAY51082	Aay51082 Human fus
26	2023	99.7	616	3	AAY59172	Aay59172 CD4-Ig fu
27	2023	99.7	631	1	AAP93009	Aap93009 Genetic c
28	2023	99.7	631	3	AAB19508	Aab19508 CD4-IgG1
29	2023	99.7	631	3	AAY51079	Aay51079 Human fus
30	2023	99.7	631	3	AAY59169	Aay59169 CD4-Ig fu
31	2023	99.7	729	1	AAP93008	Aap93008 Genetic c
32	2023	99.7	729	3	AAB19507	Aab19507 CD4-IgG1
33	2023	99.7	729	3	AAY51078	Aay51078 Human fus
34	2023	99.7	729	3	AAY59168	Aay59168 CD4-Ig fu
35	2021	99.6	400	2	AAR06374	Aar06374 Truncated
36	2021	99.6	458	1	AAP81990	Aap81990 Clone pT4
37	2021	99.6	458	1	AAP91369	Aap91369 T4 protei
38	2021	99.6	458	2	AAY39826	Aay39826 Soluble h
39	2021	99.6	2037	2	AAR04032	Aar04032 Full leng
40	2021	99.6	2050	2	AAR07641	Aar07641 Deduced s
41	2018	99.5	394	1	AAP93506	Aap93506 Derived s
42	2017	99.4	402	1	AAP91922	Aap91922 Sequence
43	2017	99.4	402	1	AAP94757	Aap94757 Sequence
44	2016	99.4	481	3	AAY51081	Aay51081 Human fus
45	2015	99.3	394	3	AAY88328	Aay88328 T4 glycop

ALIGNMENTS

RESULT 1
AAR89450
ID AAR89450 standard; peptide; 398 AA.
XX
AC AAR89450;
XX
DT 26-SEP-1996 (first entry)
XX
DE CD4 D1-D4 domains.
XX
KW CD7; transmembrane domain; chimeric receptor; CD5; CD34; CH2; CH3; IgG1;
KW human; CD4; HIV; proteinaceous alpha-helix; T cell; B cell; neutrophil;
KW dendritic cell; therapy; mammal; infection.
XX
OS Homo sapiens.
XX
PN WO9603883-A1.
XX
PD 15-FEB-1996.
XX
PF 26-JUL-1995; 95WO-US009468.
XX
PR 02-AUG-1994; 94US-00284391.
PR 24-FEB-1995; 95US-00394388.
XX
PA (GEHO) GEN HOSPITAL CORP.
XX
PI Seed B, Banapour B, Romeo C, Kolanus W;
XX
DR WPI; 1996-129034/13.
DR N-PSDB; AAT10797.
XX
PT Membrane-bound chimeric receptor comprising extracellular portion
PT including CD4 fragment - cells expressing receptor can be used for
PT treatment of HIV infection.
XX
PS Example 10; Fig 23; 134pp; English.
XX
CC This sequence represents the D1-D4 domains of CD4. This sequence is
CC included in the membrane bound proteinaceous chimeric receptor of the
CC invention. The extracellular portion of the chimeric receptor contains a
CC fragment of CD4 (amino acids 1-194 or 1-200 of the CD4 sequence) which
CC specifically recognises and binds HIV-infected cells, but does not
CC mediate HIV infection. The extracellular domain of the receptor is
CC separated from the cell membrane by 48 or 72 angstroms, or by one or more
CC proteinaceous alpha-helices. The transmembrane region of the chimeric
CC receptor contains a portion of the CD7, CD5 or CD34 transmembrane domain.
CC Alternatively, the extracellular portion of the receptor can also be

```
CC   separated from the intracellular domain by the hinge, CH2 and CH3 domains
CC   of human IgG1. The cells expressing the receptor are preferably T cells,
CC   B cells, neutrophils, or dendritic cells. The therapeutic cells
CC   expressing the chimeric receptor are administered to a mammal to treat
CC   HIV infection
XX
SQ   Sequence 398 AA;

  Query Match             100.0%;  Score 2029;  DB 2;  Length 398;
  Best Local Similarity   100.0%;  Pred. No. 2.3e-135;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60

Qy         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120

Qy        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180

Qy        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240

Qy        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300

Qy        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360

Qy        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
              ||||||||||||||||||||||||||||||||||
Db        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394


RESULT 2
AAB07769
ID   AAB07769 standard; protein; 458 AA.
XX
AC   AAB07769;
XX
DT   07-NOV-2000  (first entry)
XX
DE   DNA encoding a human T4 glycoprotein.
XX
KW   Human; T4 glycoprotein; human immunodeficiency virus; HIV;
KW   envelope glycoprotein; AIDS; virus binding.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .23
FT                   /note= "leader sequence"
FT   Modified-site   296. .298
FT                   /note= "N-linked glycosylation site"
FT   Modified-site   325. .327
FT                   /note= "N-linked glycosylation site"
FT   Domain          398. .420
FT                   /note= "transmembrane domain"
FT   Domain          421. .458
FT                   /note= "cytoplasmic domain"
XX
PN   US6093539-A.
XX
PD   25-JUL-2000.
XX
PF   06-JUN-1995;   95US-00466368.
XX
PR   21-AUG-1986;   86US-00898587.
PR   11-JUN-1991;   91US-00713564.
PR   06-JUL-1992;   92US-00909021.
PR   12-DEC-1994;   94US-00354452.
XX
PA   (UYCO ) UNIV COLUMBIA NEW YORK.
XX
PI   Maddon PJ,  Chess L,  Axel R,  Weiss R,  Mcdougal JS,  Littman DR;
XX
DR   WPI; 2000-505203/45.
DR   N-PSDB; AAA59352.
XX
PT   New isolated nucleic acid encoding a human T cell surface protein and the
PT   soluble surface T4 glycoprotein that it encodes, useful as prophylaxis
PT   for treating a subject infected with human acquired immune deficiency
PT   syndrome virus.
XX
PS   Disclosure; Fig 6A-B; 69pp; English.
XX
CC   The present sequence represents a human T4 glycoprotein. An aqueous-
CC   soluble polypeptide comprising a portion of a human T4 glycoprotein
CC   specifically forms a complex with a human immunodeficiency virus (HIV) .
CC   envelope glycoprotein. The DNA is useful for producing the soluble
CC   surface T4 glycoprotein. The soluble surface T4 glycoprotein is useful as
CC   a therapeutic agent, i.e. as prophylaxis for treating a subject infected
CC   with an HIV virus. Thus, the soluble T4 glycoprotein is useful for
CC   treating human AIDS. The soluble T4 glycoprotein is also useful in
CC   diagnostic or screening assays, e.g. for screening inhibitors of virus
CC   binding, or for detecting and quantitating T4, T4+ cells and antibodies
CC   to T4, which are of diagnostic value for AIDS
XX
SQ   Sequence 458 AA;

  Query Match             100.0%;  Score 2029;  DB 3;  Length 458;
  Best Local Similarity   100.0%;  Pred. No. 2.7e-135;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60

Qy         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120

Qy        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180

Qy        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240

Qy        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300

Qy        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360

Qy        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
              ||||||||||||||||||||||||||||||||||
Db        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394


RESULT 3
AAR27277
ID   AAR27277 standard; protein; 462 AA.
XX
AC   AAR27277;
XX
```

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DT   25-MAR-2003  (revised)
DT   28-JUL-1995  (first entry)
XX
DE   CD4:eta peptide chimeric protein.
XX
KW   Fusion protein; CD4; extracellular domain; zeta; eta; gamma;
KW   membrane spanning domain; intracellular domain; type I;
KW   integral membrane homodimer; TCR; T cell antigen receptor;
KW   extracellular domain; mouse; human; receptor; chimera;
KW   HPB-ALL tumour cell line; natural killer cell.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Protein         1. .399
FT                   /note= "CD4 extracellular domain"
FT   Protein         400. .462
FT                   /note= "Zeta membrane spanning and intracellular domain"
XX
PN   WO9215322-A1
XX
PD   17-SEP-1992
XX
PF   06-MAR-1992;   92WO-US001785.
XX
PR   07-MAR-1991;   91US-00665961.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Seed B,  Romeo C,  Kolanus W;
XX
DR   WPI; 1992-331474/40.
DR   N-PSDB; AAQ28705.
XX
PT   Therapeutic cells expressing chimeric receptors - directing cellular
PT   response to an infective agent, useful in treating HIV-1, AIDS
PT   Pneumocystis carinii infections etc.
XX
PS   Example 2; Page 73-74; 114pp; English.
XX
CC   This sequence represents a fusion protein between the CD4 extracellular
CC   domain and the eta protein membrane spanning domain and intracellular
CC   domain. Eta is an isoform of zeta (see also AAR27276) which is a 32 kD
CC   type I integral membrane homodimer, which arises by alternate mRNA
CC   splicing. It is present in reduced amounts in cells expressing the T cell
CC   antigen receptor. Zeta-eta heterodimers are thought to mediate the
CC   formation of inositol phosphates, as well as the receptor initiated cell
CC   death called apoptosis. In the production of the CD4 receptor chimera,
CC   the eta cDNA was isolated from the HPB-ALL tumour cell line and from
CC   human natural killer cells. The eta cDNA was joined to the extracellular
CC   domain of an engineered form of CD4 possessing a BamHI site just upstream
CC   of the membrane spanning domain, by a BamHI site naturally present a few
CC   residues upstream of the membrane spanning domain. (Updated on 25-MAR-
CC   2003 to correct PN field.)
XX
SQ   Sequence 462 AA;

  Query Match             100.0%;  Score 2029;  DB 2;  Length 462;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-135;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60

Qy         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120

Qy        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180

Qy        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240

Qy        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300

Qy        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360

Qy        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
              ||||||||||||||||||||||||||||||||||
Db        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394


RESULT 4
AAR78677
ID   AAR78677 standard; protein; 462 AA.
XX
AC   AAR78677;
XX
DT   16-APR-1996  (first entry)
XX
DE   T-cell receptor gamma.
XX
KW   Chimeric receptor; CD4; T-cell receptor gamma; HIV; cytolysis;
KW   human immunodeficiency virus; adoptive immunotherapy.
XX
OS   Homo sapiens.
XX
PN   WO9521528-A1.
XX
PD   17-AUG-1995.
XX
PF   12-JAN-1995;   95WO-US000454.
XX
PR   14-FEB-1994;   94US-00195395.
PR   02-AUG-1994;   94US-00284391.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Seed B,  Banapour B,  Romeo C,  Kolanus W;
XX
DR   WPI; 1995-292893/38.
DR   P-PSDB; AAQ96123.
XX
PT   Target cytolysis of HIV-infected cells - by chimeric CD4 receptor-bearing
PT   cells.
XX
PS   Example 2; Page 77-78; 118pp; English.
XX
CC   Fusion proteins comprising the extracellular domain of CD4 fused to T-
CC   cell receptor zeta, gamma or eta (AAR78676-78, respectively) were
CC   expressed in CV1 using a vaccine virus vector. These CD4:zeta, CD4:gamma
CC   and CD4:eta chimeric receptors mediated cytolysis of targets expressing
CC   HIV gp120/41
XX
SQ   Sequence 462 AA;

  Query Match             100.0%;  Score 2029;  DB 2;  Length 462;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-135;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60

Qy         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
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Qy        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180

Qy        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240

Qy        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300

Qy        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360

Qy        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
              |||||||||||||||||||||||||||||||||||
Db        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
```

RESULT 5
AAR89457
ID AAR89457 standard; protein; 462 AA.
XX
AC AAR89457;
XX
DT 26-SEP-1996 (first entry)
XX
DE CD4:gamma fusion protein.
XX
KW CD7; transmembrane domain; chimeric receptor; CD5; CD34; CH2; CH3; IgG1;
KW human; CD4; HIV; proteinaceous alpha-helix; T cell; B cell; neutrophil;
KW dendritic cell; therapy; mammal; infection.
XX
OS Synthetic.
XX
PN WO9603883-A1.
XX
PD 15-FEB-1996.
XX
PF 26-JUL-1995; 95WO-US009468.
XX
PR 02-AUG-1994; 94US-00284391.
PR 24-FEB-1995; 95US-00394388.
XX
PA (GEHO) GEN HOSPITAL CORP.
XX
PI Seed B, Banapour B, Romeo C, Kolanus W;
XX
DR WPI; 1996-129034/13.
DR N-PSDB; AAT10802.
XX
PT Membrane-bound chimeric receptor comprising extracellular portion
PT including CD4 fragment - cells expressing receptor can be used for
PT treatment of HIV infection.
XX
PS Example 2; Page 79; 134pp; English.
XX
CC AAT10801-T10803 represent membrane bound proteinaceous chimeric receptors
CC of the invention. This sequence represents the CD4:gamma chimera. The
CC transmembrane region of the chimeric receptor acts to separate the
CC intracellular and extracellular domains of the chimera, and contains a
CC portion of the CD7 (see AAR89440), CD5 or CD34 transmembrane domains.
CC Alternatively, the extracellular portion of the receptor can be separated
CC from the intracellular domain by the hinge, CH2 and CH3 domains of human
CC IgG1 (see AAR89441). The extracellular portion of the chimeric receptor
CC contains a fragment of CD4 (amino acids 1-394 or 1-200 of the CD4
CC sequence, see AAR89450 and AAR89451) which specifically recognises and
CC binds HIV-infected cells, but does not mediate HIV infection. The
CC extracellular domain of the receptor is separated from the cell membrane
CC by 48 or 72 angstroms, or by one or more proteinaceous alpha-helices. The
CC cells expressing the receptor are preferably T cells, B cells,
CC neutrophils, or dendritic cells. The therapeutic cells expressing the
CC chimeric receptor are administered to a mammal to treat HIV infection
XX
SQ Sequence 462 AA;

```
  Query Match             100.0%;  Score 2029;  DB 2;  Length 462;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-135;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60

Qy         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120

Qy        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180

Qy        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240

Qy        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300

Qy        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360

Qy        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
              |||||||||||||||||||||||||||||||||||
Db        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
```

RESULT 6
AAW02214
ID AAW02214 standard; protein; 462 AA.
XX
AC AAW02214;
XX
DT 11-NOV-1996 (first entry)
XX
DE CD4:Fc receptor gamma chain chimaeric receptor.
XX
KW Chimaeric receptor; cellular immunity; adoptive immunotherapy; CD4;
KW human immunodeficiency virus type 1; HIV-1; AIDS; therapy;
KW Fc receptor gamma chain; cytotoxic T lymphocyte; CTL.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Domain 1. .393
FT /label= Extracellular_domain
FT /note= "CD4 extracellular domain"
FT Region 394. .397
FT /label= Linker
FT /note= "encoding DNA contains a BamHI site used for
FT fusion construction"
FT Region 398. .462
FT /note= "region of fusion derived from gamma chain,
FT preferred signal-transducing portions for constructs of
FT the invention are amino acids 421-462 and 402-419"
FT Domain 400. .462
FT /label= Transmembrane+Intracellular_domains
XX
PN WO9625953-A1.
XX
PD 29-AUG-1996.
XX

```
PF   25-JAN-1996;   96WO-US001056.
XX
PR   24-FEB-1995;   95US-00394176.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Seed B,  Romeo C,  Kolanus W;
XX
DR   WPI; 1996-402134/40.
DR   N-PSDB; AAT36759.
XX
PT   Direction of cellular immune response using therapeutic cell expressing 2
PT   chimaeric receptors - comprising region binding to target cell and region
PT   that signals target cell destruction, or CD28 region, partic. for
PT   eliminating HIV-infected cells.
XX
PS   Claim 7; Page 76; 120pp; English.
XX
CC   A chimaeric receptor (AAW00214) comprises the extracellular domain of an
CC   engineered form of the CD4 cellular receptor for HIV and the
CC   transmembrane and intracellular regions, including the cytolytic signal-
CC   transducing portion, of the human Fc receptor gamma chain; the region of
CC   the fusion is shown in AAW02223. It can be obtd. by inserting a gene
CC   fusion (AAT36759) into a vaccinia virus vector and expression in host
CC   cells. Chimaeric receptors comprising CD4 fused to Fc receptor gamma or T
CC   -cell receptor zeta (see also AAW02213) or eta (AAW02215) chains are
CC   capable of directing cytotoxic T lymphocytes to specifically recognise
CC   and kill cells expressing HIV gp120, thus providing a therapy for AIDS
XX
SQ   Sequence 462 AA;

  Query Match             100.0%;  Score 2029;  DB 2;  Length 462;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-135;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60

Qy         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120

Qy        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180

Qy        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240

Qy        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300

Qy        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360

Qy        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
              |||||||||||||||||||||||||||||||||||
Db        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394


RESULT 7
AAW83142
ID   AAW83142 standard; protein; 462 AA.
XX
AC   AAW83142;
XX
DT   03-FEB-1999  (first entry)
XX
DE   Chimeric receptor containing mouse gamma polypeptide.
XX
KW   Human; zeta; eta; gamma; membrane-bound chimeric receptor; infection;
KW   tumour; cancer cell; autoimmune-generated cell; T cell receptor; CD3;
KW   CD4; B cell receptor; Fc receptor; pathogen; bacterial; fungal;
KW   protozoan; viral.
XX
OS   Synthetic.
OS   Mus sp.
XX
PN   US5843728-A.
XX
PD   01-DEC-1998.
XX
PF   05-APR-1995;   95US-00417495.
XX
PR   07-MAR-1991;   91US-00665961.
PR   06-MAR-1992;   92US-00847566.
PR   28-FEB-1994;   94US-00203866.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Romeo C,  Kolanus W,  Seed B;
XX
DR   WPI; 1999-044582/04.
DR   N-PSDB; AAV70158.
XX
PT   Membrane-bound chimeric receptors - comprising extracellular portion
PT   which recognises and binds a target cell and an intracellular portion of
PT   e.g. a T-cell receptor.
XX
PS   Example 2; Col 43-46; 57pp; English.
XX
CC   The present invention describes DNA encoding a membrane-bound chimeric
CC   receptor comprising: (a) an extracellular portion that specifically
CC   recognises and binds a target cell or a target infective agent; and (b)
CC   an intracellular portion of a T-cell receptor CD3, zeta or eta
CC   polypeptide, a B-cell receptor polypeptide or an Fc receptor polypeptide.
CC   The present sequence represents a chimeric receptor containing the mouse
CC   gamma polypeptide. Cells expressing chimeric receptors of the present
CC   invention can be administered to mammals in order to destroy pathogens
CC   (e.g. bacteria, fungi, protozoa or viruses, especially HIV), cancer cells
CC   or autoimmune-generated cells
XX
SQ   Sequence 462 AA;

  Query Match             100.0%;  Score 2029;  DB 2;  Length 462;
  Best Local Similarity   100.0%;  Pred. No. 2.8e-135;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60

Qy         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120

Qy        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180

Qy        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240

Qy        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300

Qy        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
```

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Qy        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
              |||||||||||||||||||||||||||||||||||
Db        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
```

RESULT 8
AAR27278
ID AAR27278 standard; protein; 532 AA.
XX
AC AAR27278;
XX
DT 25-MAR-2003 (revised)
DT 28-JUL-1995 (first entry)
XX
DE CD4:gamma peptide chimeric protein.
XX
KW Fusion protein; CD4; extracellular domain; zeta; eta; gamma;
KW membrane spanning domain; intracellular domain; type I;
KW integral membrane homodimer; TCR; T cell antigen receptor;
KW extracellular domain; mouse; human; receptor; chimera;
KW HPB-ALL tumour cell line; natural killer cell.
XX
OS Homo sapiens.
XX
PN WO9215322-A1.
XX
PD 17-SEP-1992.
XX
PF 06-MAR-1992; 92WO-US001785.
XX
PR 07-MAR-1991; 91US-00665961.
XX
PA (GEHO) GEN HOSPITAL CORP.
XX
PI Seed B, Romeo C, Kolanus W;
XX
DR WPI; 1992-331474/40.
DR N-PSDB; AAQ28706.
XX
PT Therapeutic cells expressing chimeric receptors - directing cellular
PT response to an infective agent, useful in treating HIV-1, AIDS
PT Pneumocystis carinii infections etc.
XX
PS Example 2; Page 74-76; 114pp; English.
XX
CC This sequence represents a fusion protein between the CD4 extracellular
CC domain and the gamma protein membrane spanning domain and intracellular
CC domain. The Fc-receptor-associated gamma chain is expressed in cell
CC surface complexes with additional polypeptides, some of which mediate
CC ligand recognition, and others which have undefined function. Gamma bears
CC a homodimeric structure and overall organisation very similar to that of
CC zeta (see also AAQ28704), and is a component of both the mast
CC cell/basophil high affinity IgE receptor, Fc-epsilon-RI, which consists
CC of at least three distinct polypeptide chains and one of the low affinity
CC receptors for IgG, represented in mice by Fc-gamma-RII-alpha. In the
CC production of the CD4 receptor chimera, the gamma cDNA was isolated from
CC the HPB-ALL tumour cell line and from human natural killer cells. The
CC gamma cDNA was joined to the extracellular domain by engineering a BamHI
CC site just upstream of the membrane spanning domain, by a BamHI site
CC naturally present a few residues upstream of the membrane spanning
CC domain. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ Sequence 532 AA;

```
  Query Match           100.0%;  Score 2029;  DB 2;  Length 532;
  Best Local Similarity  100.0%;  Pred. No. 3.3e-135;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60

Qy         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120

Qy        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180

Qy        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240

Qy        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300

Qy        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360

Qy        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
              |||||||||||||||||||||||||||||||||||
Db        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
```

RESULT 9
AAR78678
ID AAR78678 standard; protein; 532 AA.
XX
AC AAR78678;
XX
DT 16-APR-1996 (first entry)
XX
DE T-cell receptor eta.
XX
KW Chimeric receptor; CD4; T-cell receptor eta; HIV; cytolysis;
KW human immunodeficiency virus; adoptive immunotherapy.
XX
OS Homo sapiens.
XX
PN WO9521528-A1.
XX
PD 17-AUG-1995.
XX
PF 12-JAN-1995; 95WO-US000454.
XX
PR 14-FEB-1994; 94US-00195395.
PR 02-AUG-1994; 94US-00284391.
XX
PA (GEHO) GEN HOSPITAL CORP.
XX
PI Seed B, Banapour B, Romeo C, Kolanus W;
XX
DR WPI; 1995-292893/38.
DR N-PSDB; AAQ96124.
XX
PT Target cytolysis of HIV-infected cells - by chimeric CD4 receptor-bearing
PT cells.
XX
PS Example 2; Page 78-79; 118pp; English.
XX
CC Fusion proteins comprising the extracellular domain of CD4 fused to T-
CC cell receptor zeta, gamma or eta (AAR78676-78, respectively) were
CC expressed in CV1 using a vaccine virus vector. These CD4:zeta, CD4:gamma
CC and CD4:eta chimeric receptors mediated cytolysis of targets expressing
CC HIV gp120/41
XX
SQ Sequence 532 AA;

```
  Query Match           100.0%;  Score 2029;  DB 2;  Length 532;
  Best Local Similarity  100.0%;  Pred. No. 3.3e-135;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60
```

```
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60

Qy         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120

Qy        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180

Qy        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240

Qy        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300

Qy        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360

Qy        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
                 |||||||||||||||||||||||||||||||||
Db        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
```

RESULT 10
AAR89458
ID AAR89458 standard; protein; 532 AA.
XX
AC AAR89458;
XX
DT 26-SEP-1996 (first entry)
XX
DE CD4:eta fusion protein.
XX
KW CD7; transmembrane domain; chimeric receptor; CD5; CD34; CH2; CH3; IgG1;
KW human; CD4; HIV; proteinaceous alpha-helix; T cell; B cell; neutrophil;
KW dendritic cell; therapy; mammal; infection.
XX
OS Synthetic.
XX
PN WO9603883-A1.
XX
PD 15-FEB-1996.
XX
PF 26-JUL-1995; 95WO-US009468.
XX
PR 02-AUG-1994; 94US-00284391.
PR 24-FEB-1995; 95US-00394388.
XX
PA (GEHO) GEN HOSPITAL CORP.
XX
PI Seed B, Banapour B, Romeo C, Kolanus W;
XX
DR WPI; 1996-129034/13.
DR N-PSDB; AAT10803.
XX
PT Membrane-bound chimeric receptor comprising extracellular portion
PT including CD4 fragment - cells expressing receptor can be used for
PT treatment of HIV infection.
XX
PS Example 2; Page 80-81; 134pp; English.
XX
CC AAT10801-T10803 represent membrane bound proteinaceous chimeric receptors
CC of the invention. This sequence represents the CD4:eta chimera. The
CC transmembrane region of the chimeric receptor acts to separate the
CC intracellular and extracellular domains of the chimera, and contains a
CC portion of the CD7 (see AAR89440), CD5 or CD34 transmembrane domains.
CC Alternatively, the extracellular portion of the receptor can be separated
CC from the intracellular domain by the hinge, CH2 and CH3 domains of human
CC IgG1 (see AAR89441). The extracellular portion of the chimeric receptor
CC contains a fragment of CD4 (amino acids 1-394 or 1-200 of the CD4
CC sequence, see AAR89450 and AAR89451) which specifically recognises and
CC binds HIV-infected cells, but does not mediate HIV infection. The
CC extracellular domain of the receptor is separated from the cell membrane
CC by 48 or 72 angstroms, or by one or more proteinaceous alpha-helices. The
CC cells expressing the receptor are preferably T cells, B cells,
CC neutrophils, or dendritic cells. The therapeutic cells expressing the
CC chimeric receptor are administered to a mammal to treat HIV infection
XX
SQ Sequence 532 AA;

```
  Query Match             100.0%;  Score 2029;  DB 2;  Length 532;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-135;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60

Qy         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120

Qy        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180

Qy        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240

Qy        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300

Qy        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360

Qy        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
                |||||||||||||||||||||||||||||||||
Db        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
```

RESULT 11
AAW02215
ID AAW02215 standard; protein; 532 AA.
XX
AC AAW02215;
XX
DT 16-OCT-2003 (revised)
DT 11-NOV-1996 (first entry)
XX
DE CD4:T-cell receptor eta chain chimaeric receptor.
XX
KW Chimaeric receptor; cellular immunity; adoptive immunotherapy; CD4;
KW human immunodeficiency virus type 1; HIV-1; AIDS; therapy;
KW T-cell receptor eta chain; cytotoxic T lymphocyte; CTL.
XX
OS Homo; sapiens.
OS Mus sp.
OS Chimeric.
XX
FH Key Location/Qualifiers
FT Domain 1. .393
FT /label= Extracellular_domain
FT /note= "CD4 extracellular domain"
FT Region 394. .396
FT /label= Linker
FT /note= "encoding DNA contains a BamHI site used for
FT fusion construction"
FT Region 397. .532

```
FT                   /note= "region of fusion derived from eta chain,
FT                   preferred signal-transducing portions for constructs of
FT                   the invention are amino acids 421-532, 423-455, 438-455,
FT                   461-494, 494-528 or 400-420"
FT   Domain          400. .437
FT                   /label= Transmembrane_domain
FT                   /note= "eta chain transmembrane domain"
FT   Domain          438. .575
FT                   /label= Intracellular_domain
FT                   /note= "eta chain intracellular domain"
XX
PN   WO9625953-A1.
XX
PD   29-AUG-1996.
XX
PF   25-JAN-1996;   96WO-US001056.
XX
PR   24-FEB-1995;   95US-00394176.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Seed B,  Romeo C,  Kolanus W;
XX
DR   WPI; 1996-402134/40.
DR   N-PSDB; AAT36760.
XX
PT   Direction of cellular immune response using therapeutic cell expressing 2
PT   chimaeric receptors - comprising region binding to target cell and region
PT   that signals target cell destruction, or CD28 region, partic. for
PT   eliminating HIV-infected cells.
XX
PS   Claim 7; Page 77-78; 120pp; English.
XX
CC   A chimaeric receptor (AAW00215) comprises the extracellular domain of an
CC   engineered form of the CD4 cellular receptor for HIV and the
CC   transmembrane and intracellular regions, including the cytolytic signal-
CC   transducing portion, of the mouse T-cell receptor eta chain. It can be
CC   obtd. by inserting a gene fusion (AAT36760) into a vaccinia virus vector
CC   and expression in host cells. Chimaeric receptors comprising CD4 fused to
CC   eta, eta (see also AAW02213) or Fc receptor gamma (see also AAW02214)
CC   chains are capable of directing cytotoxic T lymphocytes to specifically
CC   recognise and kill cells expressing HIV gp120, thus providing a therapy
CC   for AIDS. (Updated on 16-OCT-2003 to standardise OS field)
XX
SQ   Sequence 532 AA;

  Query Match             100.0%;  Score 2029;  DB 2;  Length 532;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-135;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60

Qy         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120

Qy        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180

Qy        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240

Qy        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300

Qy        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360

Qy        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
              ||||||||||||||||||||||||||||||||||
Db        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394


RESULT 12
AAW83141
ID   AAW83141 standard; protein; 532 AA.
XX
AC   AAW83141;
XX
DT   03-FEB-1999  (first entry)
XX
DE   Chimeric receptor containing human eta polypeptide.
XX
KW   Human; zeta; eta; gamma; membrane-bound chimeric receptor; infection;
KW   tumour; cancer cell; autoimmune-generated cell; T cell receptor; CD3;
KW   CD4; B cell receptor; Fc receptor; pathogen; bacterial; fungal;
KW   protozoan; viral.
XX
OS   Synthetic.
OS   Homo sapiens.
XX
PN   US5843728-A.
XX
PD   01-DEC-1998.
XX
PF   05-APR-1995;   95US-00417495.
XX
PR   07-MAR-1991;   91US-00665961.
PR   06-MAR-1992;   92US-00847566.
PR   28-FEB-1994;   94US-00203866.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Romeo C,  Kolanus W,  Seed B;
XX
DR   WPI; 1999-044582/04.
DR   N-PSDB; AAV70157.
XX
PT   Membrane-bound chimeric receptors - comprising extracellular portion
PT   which recognises and binds a target cell and an intracellular portion of
PT   e.g. a T-cell receptor.
XX
PS   Claim 11; Col 45-48; 57pp; English.
XX
CC   The present invention describes DNA encoding a membrane-bound chimeric
CC   receptor comprising: (a) an extracellular portion that specifically
CC   recognises and binds a target cell or a target infective agent; and (b)
CC   an intracellular portion of a T-cell receptor CD3, zeta or eta
CC   polypeptide, a B-cell receptor polypeptide or an Fc receptor polypeptide.
CC   The present sequence represents a chimeric receptor containing the human
CC   eta polypeptide. Cells expressing chimeric receptors of the present
CC   invention can be administered to mammals in order to destroy pathogens
CC   (e.g. bacteria, fungi, protozoa or viruses, especially HIV), cancer cells
CC   or autoimmune-generated cells
XX
SQ   Sequence 532 AA;

  Query Match             100.0%;  Score 2029;  DB 2;  Length 532;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-135;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60

Qy         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120

Qy        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180
```

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                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180

Qy        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240

Qy        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300

Qy        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360

Qy        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
                ||||||||||||||||||||||||||||||||||
Db        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394


RESULT 13
AAR27276
ID   AAR27276 standard; protein; 575 AA.
XX
AC   AAR27276;
XX
DT   25-MAR-2003  (revised)
DT   28-JUL-1995  (first entry)
XX
DE   CD4:zeta peptide chimeric protein.
XX
KW   Fusion protein; CD4; extracellular domain; zeta; eta; gamma;
KW   membrane spanning domain; intracellular domain; type I;
KW   integral membrane homodimer; TCR; T cell antigen receptor;
KW   extracellular domain; mouse; human; receptor; chimera;
KW   HPB-ALL tumour cell line; natural killer cell.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Protein         1. .399
FT                   /note= "CD4 extracellular domain"
FT   Protein         400. .575
FT                   /note= "Zeta membrane spanning and intracellular domain"
XX
PN   WO9215322-A1.
XX
PD   17-SEP-1992.
XX
PF   06-MAR-1992;   92WO-US001785.
XX
PR   07-MAR-1991;   91US-00665961.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Seed B,  Romeo C,  Kolanus W;
XX
DR   WPI; 1992-331474/40.
DR   N-PSDB; AAQ28704.
XX
PT   Therapeutic cells expressing chimeric receptors - directing cellular
PT   response to an infective agent, useful in treating HIV-1, AIDS
PT   Pneumocystis carinii infections etc.
XX
PS   Example 2; Page 72-73; 114pp; English.
XX
CC   This sequence represents a fusion protein between the CD4 extracellular
CC   domain and the zeta protein membrane spanning domain and intracellular
CC   domain. Zeta is a 32 kD type I integral membrane homodimer which has a 9
CC   residue extracellular domain and a 112/113 residue intracellular domain
CC   for mouse and human protein respectively. In the production of the CD4
CC   receptor chimera, the zeta cDNA was isolated from the HPB-ALL tumour cell
CC   line and from human natural killer cells. The zeta cDNA was joined to the
CC   extracellular domain of an engineered form of CD4 possessing a BamHI site
CC   just upstream of the membrane spanning domain, by a BamHI site naturally
CC   present a few residues upstream of the membrane spanning domain. (Updated
CC   on 25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 575 AA;

  Query Match             100.0%;  Score 2029;  DB 2;  Length 575;
  Best Local Similarity   100.0%;  Pred. No. 3.6e-135;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60

Qy         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120

Qy        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180

Qy        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240

Qy        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300

Qy        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360

Qy        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
                ||||||||||||||||||||||||||||||||||
Db        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394


RESULT 14
AAR78676
ID   AAR78676 standard; protein; 575 AA.
XX
AC   AAR78676;
XX
DT   16-APR-1996  (first entry)
XX
DE   T-cell receptor zeta.
XX
KW   Chimeric receptor; CD4; T-cell receptor zeta; HIV; cytolysis;
KW   human immunodeficiency virus; adoptive immunotherapy.
XX
OS   Homo sapiens.
XX
PN   WO9521528-A1.
XX
PD   17-AUG-1995.
XX
PF   12-JAN-1995;   95WO-US000454.
XX
PR   14-FEB-1994;   94US-00195395.
PR   02-AUG-1994;   94US-00284391.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Seed B,  Banapour B,  Romeo C,  Kolanus W;
XX
DR   WPI; 1995-292893/38.
DR   N-PSDB; AAQ96122.
XX
PT   Target cytolysis of HIV-infected cells - by chimeric CD4 receptor-bearing
PT   cells.
```

```
XX
PS   Example 2; Page 76-77; 118pp; English.
XX
CC   Fusion proteins comprising the extracellular domain of CD4 fused to T-
CC   cell receptor zeta, gamma or eta (AAR78676-78, respectively) were
CC   expressed in CV1 using a vaccine virus vector. These CD4:zeta, CD4:gamma
CC   and CD4:eta chimeric receptors mediated cytolysis of targets expressing
CC   HIV gp120/41
XX
SQ   Sequence 575 AA;

  Query Match             100.0%;  Score 2029;  DB 2;  Length 575;
  Best Local Similarity   100.0%;  Pred. No. 3.6e-135;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60

Qy         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120

Qy        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180

Qy        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240

Qy        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300

Qy        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360

Qy        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
              |||||||||||||||||||||||||||||||||||
Db        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394


RESULT 15
AAR89456
ID   AAR89456 standard; protein; 575 AA.
XX
AC   AAR89456;
XX
DT   26-SEP-1996  (first entry)
XX
DE   CD4:zeta fusion protein.
XX
KW   CD7; transmembrane domain; chimeric receptor; CD5; CD34; CH2; CH3; IgG1;
KW   human; CD4; HIV; proteinaceous alpha-helix; T cell; B cell; neutrophil;
KW   dendritic cell; therapy; mammal; infection.
XX
OS   Synthetic.
XX
PN   WO9603883-A1.
XX
PD   15-FEB-1996.
XX
PF   26-JUL-1995;   95WO-US009468.
XX
PR   02-AUG-1994;   94US-00284391.
PR   24-FEB-1995;   95US-00394388.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Seed B,  Banapour B,  Romeo C,  Kolanus W;
XX
DR   WPI; 1996-129034/13.
DR   N-PSDB; AAT10801.
XX
PT   Membrane-bound chimeric receptor comprising extracellular portion
PT   including CD4 fragment - cells expressing receptor can be used for
PT   treatment of HIV infection.
XX
PS   Example 2; Page 77-78; 134pp; English.
XX
CC   AAT10801-T10803 represent membrane bound proteinaceous chimeric receptors
CC   of the invention. This sequence represents the CD4:zeta chimera. The
CC   transmembrane region of the chimeric receptor acts to separate the
CC   intracellular and extracellular domains of the chimera, and contains a
CC   portion of the CD7 (see AAR89440), CD5 or CD34 transmembrane domains.
CC   Alternatively, the extracellular portion of the receptor can be separated
CC   from the intracellular domain by the hinge, CH2 and CH3 domains of human
CC   IgG1 (see AAR89441). The extracellular portion of the chimeric receptor
CC   contains a fragment of CD4 (amino acids 1-394 or 1-200 of the CD4
CC   sequence, see AAR89450 and AAR89451) which specifically recognises and
CC   binds HIV-infected cells, but does not mediate HIV infection. The
CC   extracellular domain of the receptor is separated from the cell membrane
CC   by 48 or 72 angstroms, or by one or more proteinaceous alpha-helices. The
CC   cells expressing the receptor are preferably T cells, B cells,
CC   neutrophils, or dendritic cells. The therapeutic cells expressing the
CC   chimeric receptor are administered to a mammal to treat HIV infection
XX
SQ   Sequence 575 AA;

  Query Match             100.0%;  Score 2029;  DB 2;  Length 575;
  Best Local Similarity   100.0%;  Pred. No. 3.6e-135;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MNRGVPFRHLLLVLQLALLPAATQGNKVVLGKKGDTVELTCTASQKKSIQFHWKNSNQIK 60

Qy         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ILGNQGSFLTKGPSKLNDRADSRRSLWDQGNFPLIIKNLKIEDSDTYICEVEDQKEEVQL 120

Qy        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LVFGLTANSDTHLLQGQSLTLTLESPPGSSPSVQCRSPRGKNIQGGKTLSVSQLELQDSG 180

Qy        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 TWTCTVLQNQKKVEFKIDIVVLAFQKASSIVYKKEGEQVEFSFPLAFTVEKLTGSGELWW 240

Qy        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 QAERASSSKSWITFDLKNKEVSVKRVTQDPKLQMGKKLPLHLTLPQALPQYAGSGNLTLA 300

Qy        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 LEAKTGKLHQEVNLVVMRATQLQKNLTCEVWGPTSPKLMLSLKLENKEAKVSKREKPVWV 360

Qy        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394
              |||||||||||||||||||||||||||||||||||
Db        361 LNPEAGMWQCLLSDSGQVLLESNIKVLPTWSTPV 394


Search completed: March  7, 2005, 07:12:58
Job time : 167.813 secs
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